



NATIONAL SCIENCE FOUNDATION

Request for Information: Science, Technology, Engineering, Art, and Mathematics at the Poles

AGENCY: National Science Foundation.

ACTION: Request for Information.

SUMMARY: The National Science Foundation's (NSF) Office of Polar Programs (OPP) and the Education and Human Resources (EHR) Directorate request input from interested parties on the goals, values, and approaches for managing the Antarctic Artist and Writers (AAW) Program and possibly expanding that program to include the Arctic. In addition, OPP and EHR request input into whether the NSF program which selects and sends educators to the Poles should be under a common management structure. This RFI will help inform NSF as it considers potential avenues for managing and enhancing education and outreach efforts related to polar science.

DATES: Interested persons are invited to submit comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER.]**

ADDRESSES: Submit comments to Valentine H. Kass, polarsteam@nsf.gov.

Submissions should include "RFI Response: Polar STEAM?" in the subject line of the message.

FOR FURTHER INFORMATION CONTACT: Suzanne H. Plimpton, Reports Clearance Officer, National Science Foundation, 2415 Eisenhower Avenue, Suite W18200, Alexandria, Virginia 22314; telephone (703) 292-7556; or send email to splimpto@nsf.gov. Individuals who use a telecommunications device for the deaf (TDD)

may call the Federal Information Relay Service (FIRS) at 1–800–877–8339, which is accessible 24 hours a day, 7 days a week, 365 days a year (including Federal holidays).

SUPPLEMENTARY INFORMATION:

Instructions: Response to this RFI is voluntary. Each individual or institution is requested to submit only one response. Responses should include the name of the person(s) or organization(s) filing the comment. Please include the number of the question or questions to which you are responding. Please limit your response to no more than six pages.

In accordance with FAR 15.202(3), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Responders are solely responsible for all expenses associated with responding to this RFI.

Background Information: The Office of Polar Programs (OPP) promotes creative and innovative scientific research, engineering, and education in and about the polar regions, catalyzing fundamental discovery and understanding of polar systems and their global interactions to inform the nation and advance the welfare of all people. OPP supports world-class Arctic and Antarctic science through grants to researchers across the U.S. OPP also provides polar facilities and logistical support for that research.

<https://www.nsf.gov/div/index.jsp?div=OPP>

The mission of the Education and Human Resources Directorate (EHR) is to achieve excellence in U.S. science, technology, engineering, and mathematics (STEM) education at all levels and in all settings (both formal and informal) in order to support the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians and educators and a well-informed citizenry that have access to the ideas and tools of science and engineering.

<https://www.nsf.gov/dir/index.jsp?org=EHR>

Given their respective missions, OPP and EHR collaborate to enhance both formal and informal polar education. Incorporating Art into STEM learning experiences (commonly referred to as STEAM, e.g., Science, Technology, Engineering, Arts, Mathematics) allows students of all ages to access science concepts from different vantage points, promotes creative thinking, speaks to a broader swath of learners, and enhances engagement and understanding. (Findings in the emerging field of theory, research and practice of STEAM can be found at The Integration of the Humanities and Arts with Sciences Engineering and Medicine in Higher Education | National Academies, and at www.informalscience.org.)

For decades, OPP managed the Antarctic Artists and Writers (AAW) program to support writing and artistic projects specifically designed to increase the public's understanding and appreciation of the Antarctic and the human endeavors on the southernmost continent, with priority given to projects that focus on interpreting and representing the scientific activities being conducted in the unique Antarctic region. The AAW program was paused in 2020, in order to assess the best way to move the program forward. <https://www.nsf.gov/pubs/2019/nsf19568/nsf19568.htm>

In addition to AAW, OPP has supported sending educators, both informal and formal, to both the Antarctic and Arctic to work collaboratively with researchers. This program provides a unique professional development opportunity that benefits not only the individual educators but the diverse communities they serve. In addition, the Polar Artists and Writers and polar educators programs provide unique avenues for NSF-funded researchers to enhance the Broader Impact of their work.

This RFI is part of NSF's effort to think more broadly about enhancing and sustaining polar education as we deliberate about the most effective way forward for the AAW program. Specifically, OPP and EHR are seeking input to:

- 1) Identify organizations with the capacity to manage programs that are: (a) solely focused on the AAW program, (b) focused on both artists and educators, or (c) other options identified thru this RFI.
- 2) Investigate the opportunities and constraints for expanding the Antarctic Artists and Writers program to include the Arctic, i.e., creating a Polar Artists and Writers program.
- 3) Evaluate the possibility of co-managing the polar educators program and Polar Artists and Writers program.

Information Requested: Responders are asked to answer one or more of the following questions in responses to the RFI:

1. Please describe the opportunities and constraints of managing the Antarctic Artists and Writers (AAW) program as a stand-alone program versus creating a management structure that also includes the program which selects formal and informal educators to work collaboratively with researchers in the Antarctic and Arctic.
2. Please describe the opportunities and constraints of expanding the AAW program to include the Arctic, understanding that logistic issues are unique to each region and that the Arctic is home to Indigenous and local peoples.
3. Please identify one or more organizations that have the capabilities to manage and promote national competitions for 1) artists and writers, 2) educators (formal and informal), or 3) both artists and writers and educators.

What are the unique or special characteristics of each of these organizations?
Please describe the extent these named organizations have connections, if any, to:

- i) The scientific community, especially Arctic and Antarctic polar research.
- ii) Artists and Writers organizations
- iii) Educator organizations

How would such organization(s) further the impact of the program with respect to:

- i) broadening inclusiveness and diversity within the program as well as through its outreach efforts;
- ii) enhancing the publics' understanding of the polar regions and engagement with polar scientific research;
- iii) widely distributing and promoting the program's outcomes and educational efforts over time;
- iv) evaluating the program's effectiveness over time?

Dated: March 2, 2021.

Suzanne H. Plimpton,

Reports Clearance Officer,

National Science Foundation.